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Appln. No.: 10/781,868

### **REMARKS/ARGUMENTS**

This is in response to the Office Action dated August 18, 2009. Claims 1-2, 5-9, 11-12, 15-19 and 21-24 are pending and stand rejected in the outstanding Office Action.

The rejection of independent claim 1 under U.S.C. § 103(a) as being unpatentable over Truchsess (US 5,734,726) in view of Comair et al. (US 2003/0045956) is respectfully traversed.

Claim 1 recites “...calculating a read start address of selected sound data *in accordance with a ratio of a current moving speed of the object in the game space to the maximum speed...* so that the sound data read by the sound data reading section is a waveform containing no discontinuity points *when the pace of the movement of the game object changes from acceleration to deceleration or from deceleration to acceleration*”. Truchsess/Comair lacks these features.

In the game apparatus of claim 1, even if there is a change in pace in the movement of the game object, still there is no discontinuity in the sound data read by the sound data reading section, unlike in Truchsess, where there are inherent “jumps” in the sound outputted by the system at the change of pace points.

In response to Applicant’s argument filed with the Response of April 20, 2009 that Truchsess/Comair does not disclose that the sound data read by the sound data reading section is a waveform containing no discontinuity points when the pace of the movement of the game object changes between acceleration and deceleration, the Examiner stated that Truchsess discloses that the sound data is a waveform when the pace of the movement of the game object changes between acceleration and deceleration, but acknowledged that Truchsess does not

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disclose that the waveform contains no discontinuity points. The Examiner then asserted that Comair discloses that the sound data read by the sound data reading section is a waveform containing no discontinuity points when the pace of the movement of the game object changes between acceleration and deceleration, see p. 10 of the Office Action of August 18, 2009.

The Examiner admits that in Truchsess, the sound waveform contains discontinuity points when the pace of the movement of the game object changes from acceleration to deceleration (Fig. 2A) or from deceleration to acceleration (Fig. 2B).

However, unlike the Examiner's assertion, Comair fails to teach this feature. First, Figs. 3 and 4 in Comair do not even show change in the pace of the game object between acceleration and deceleration. Instead, Fig. 4 shows a monotonic increase in the speed of the game object that produces a corresponding increase in the volume of the sound for the engine ([0029]). Fig. 3 shows the variation of the volume vs the angle at which two objects collide ([0028]). There is no change of pace in the movement of the game object occurring in Figs. 3 or 4 of Comair, hence it is not possible for Comair to teach a waveform without discontinuity point at change of pace points.

Moreover, in the Truchsess/Comair rejection asserted by the Examiner, it is Truchsess who provides the teaching of a sound data reading section that reads the sound data ("a sound data reading section (22, Fig. 4-6) for sequentially reading, selected sound data from the read start address calculated by the read start address calculating section (col. 3, lines 53-55)"), see bottom of page 3 in the Office Action of August 18, 2009. As can be seen from Figs. 2A and 2B in Truchsess, when there is change in the pace of movement of the object, for example, from

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acceleration to deceleration, the program looks to find a deceleration sound that is the closest to the acceleration sound just before the acceleration stopped. The system then reads the deceleration sounds sequentially from the deceleration sound that was the closest. This inherently causes a discontinuity in the sound waveform at the change of pace point. Comair fails to cure this deficiency in Truchsess.

Figs. 3 and 4 in Comair simply show the volume v. angle, and the volume v. speed relationship for the sound model disclosed by Comair, wherein the volume of sound for the engine increases as the, for example, speed increases. However, this does not correspond to the situation shown in Figs. 2A and 2B of Truchsess, where a change in pace of movement occurs. Comair was cited by the Examiner for allegedly teaching a moving speed calculating section and for teaching reading from memory a sound wave dependent of various parameters, including speed (see bottom of p. 5 in the Office Action of January 27, 2009), not for teaching what happens at change of pace points (the Examiner cited Truchsess for this).

In the game apparatus of claim 1, a read start address of selected sound data is calculated in accordance with a ratio of the current speed of an object in the game space to the maximum speed.

The Examiner acknowledged that Truchsess does not disclose “calculating a read start address of selected sound data in accordance with a ratio of a current moving speed of the object in the game space to the maximum speed”, see p. 5 of the Office Action of August 18, 2009. The Examiner then stated that Comair discloses reading from memory a sound wave dependent of various parameters, including speed, and alleged that this inherently includes calculating an

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address to read from a finite number of stored sound waves, from minimum to maximum speed, citing Fig. 4, see p. 6 of the Office Action. Comair fails to teach or suggest the feature admittedly missing from Truchsess.

Fig. 4 represents a volume envelope for a sound waveform based on the parameter “speed”. Based on this envelope, the volume of the sound waveform is adjusted using a current value of the speed. The same is done based on the pitch envelope. The adjusted waveforms are then mixed together to obtain the final sound. The process is then repeated using the next current value of the speed parameter ([0032], Fig. 8).

In Comair’s method, after the current speed is determined, the volume and the pitch of the stored sound waveform is calculated based on the speed envelope and combined with the volume and pitch calculated based on other parameter envelopes, e.g., angle. The output sound is the result of the above mixing. This is repeated for the next value of the speed and the other parameters. Comair does not teach accessing stored sound data and selecting a specific sound data segment based on the ratio of the current speed and the maximum speed and subsequently reading in a sequential way the stored sound segments having sequential addresses after the address of the chosen specific sound data (having the read start address), see paragraph [0072] of the instant specification. Comair teaches mixing the entire sound waveforms after they are adjusted based on the various parameters and outputting the resulting waveform, and not going into an original waveform and reading it, starting from a chosen point based on the ratio of the current speed to the maximum speed. In contrast, in an example embodiment, the claimed game apparatus calculates the moving speed of the object car and correspondingly determines the read

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start address for sequentially reading the sound data from the various sound data addresses following the read start address.

For the above reasons, claim 1 is allowable. Claims 11 and 21 contain limitations similar to those in claim 1 and are also allowable.

It is respectfully requested that the rejection of claims 2, 5-9, 12, 15-19, 22-24, all dependent from claim 1 or 11 or 21, also be withdrawn.

In view of the foregoing and other considerations, all claims are deemed in condition for allowance. A formal indication of allowability is earnestly solicited.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

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Should the Examiner feel that an interview with the undersigned would facilitate allowance of this application, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

**NIXON & VANDERHYE P.C.**

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